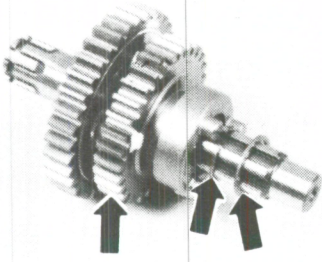
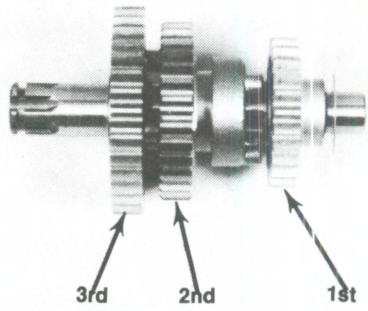


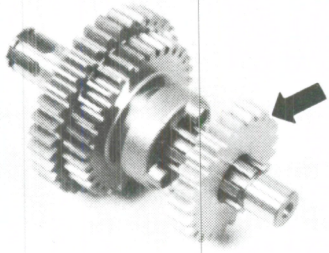
90



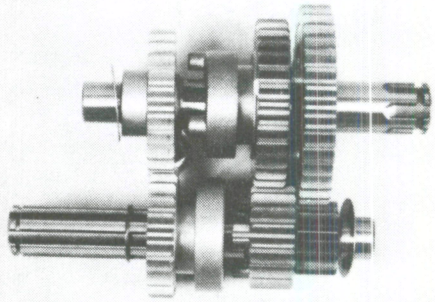
93



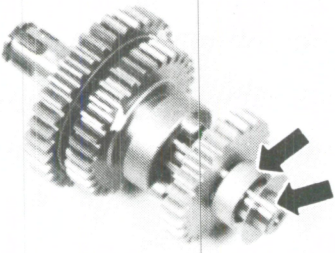
91



94



92



NOTE

After both transmission shafts have been assembled, mesh the 2 assemblies together in the correct position (Figure 94). Check that all gears meet correctly. This is your last check prior to installing the assemblies into the crankcase; make sure they are correctly assembled.

4-SPEED TRANSMISSION AND INTERNAL SHIFT MECHANISM (70 CC)

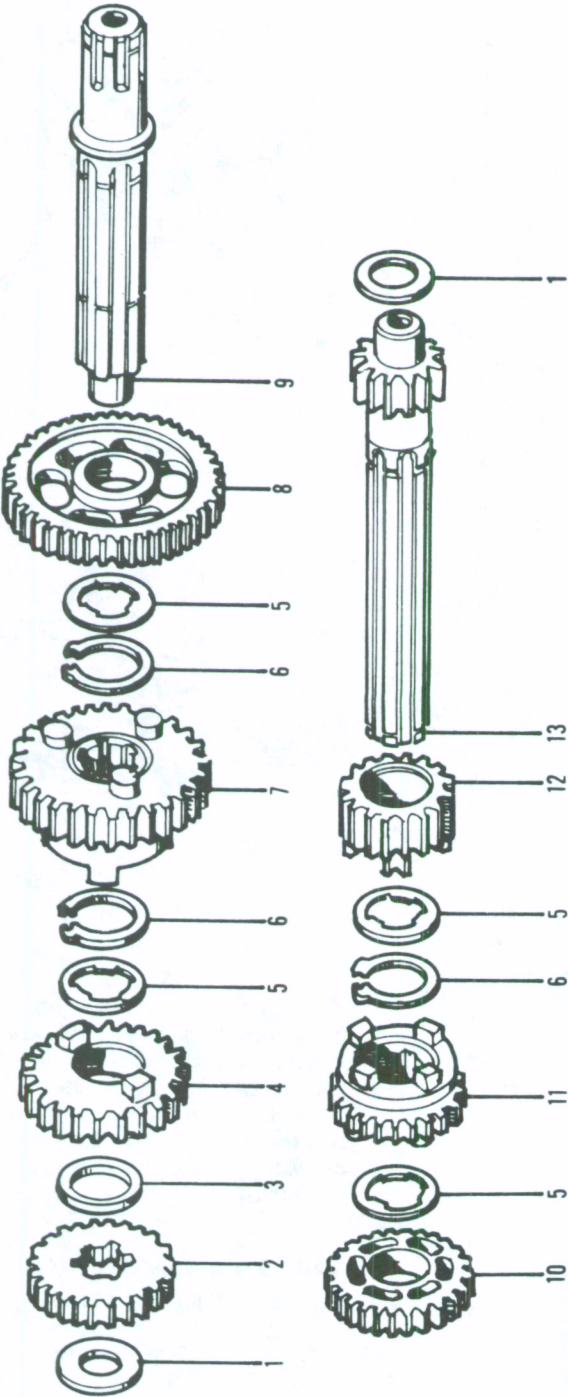
The 4-speed transmission shown in Figure 95 is used on the 1982-on ATC70.

Removal/Installation

1. Remove the engine and split the crankcase as described in Chapter Four.

95

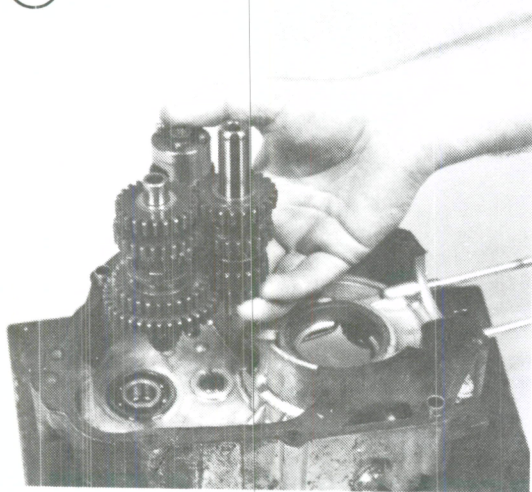
4-SPEED TRANSMISSION (70 CC)



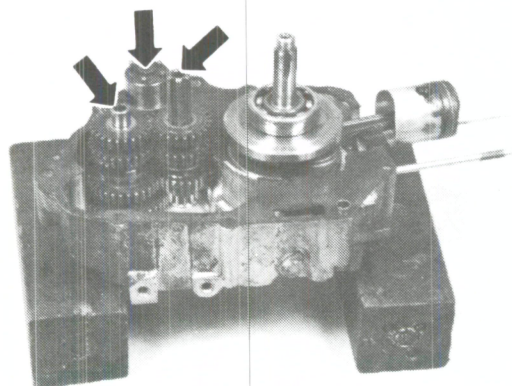
- 8. Countershaft 1st gear
- 9. Countershaft
- 10. Main shaft 4th gear
- 11. Main shaft 3rd gear
- 12. Main shaft 2nd gear
- 13. Main shaft/1st gear

- 1. Washer
- 2. Countershaft 4th gear
- 3. Thrust washer
- 4. Countershaft 3rd gear
- 5. Splined washer
- 6. Circlip
- 7. Countershaft 2nd gear

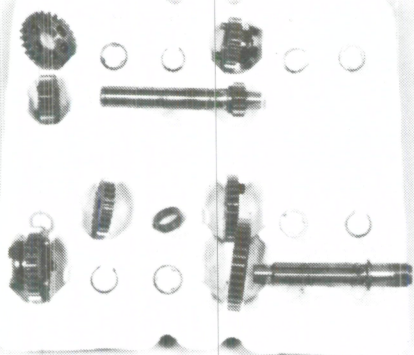
96



97



98



2. Pull the shift fork shaft assembly, main shaft assembly and the countershaft assembly up and out of the crankcase as an assembly.

3. Disassemble and inspect the shift forks and transmission assemblies as described in this chapter.

4. Coat all bearings and sliding surfaces of both transmission assemblies and the shift drum with assembly oil.

5. Install the 2 transmission assemblies and the shift drum assembly by meshing them together in their proper relationship to each other. Install them in the left-hand crankcase. Hold the thrust washer on the main shaft in place with your fingers (Figure 96). Make sure it is still positioned correctly after the assemblies are completely installed. After both assemblies are installed, tap on the end of both shafts and the shift drum assembly (Figure 97) with a plastic or rubber mallet to make sure they are completely seated.

NOTE

If the thrust washer on the end of the main shaft does not seat correctly it will hold the transmission shaft up a little and prevent the crankcase halves from seating completely.

6. Spin the transmission shafts and shift through the gears using the shift drum. Make sure you can shift into all gears. This is the time to find that something may be installed incorrectly—not after the crankcase is completely assembled.

NOTE

This procedure is best done with the aid of a helper as the assemblies are loose and won't spin very easily. Have the helper spin the transmission shaft while you turn the shift drum through all the gears.

7. Make sure that the thrust washer is installed on the countershaft.

8. Assemble the crankcase as described in Chapter Four.

Main Shaft Disassembly/Inspection/Assembly

Refer to Figure 95 for this procedure.

NOTE

A helpful "tool" that should be used for transmission disassembly is a large egg flat (the type that restaurants get their eggs in). As you remove a part from the shaft set it in one of the depressions in the same position from which it was removed (Figure 98). This is an easy way to remember the correct relationship of all parts.

1. Clean the shaft as described under *Preliminary Transmission Inspection (All Models)* in this chapter.
2. Slide off the 4th gear.
3. Slide off the splined washer.
4. Slide off the 3rd gear.
5. Remove the circlip and slide off the splined washer.
6. Slide off the 2nd gear.
7. From the other end of the shaft, remove the thrust washer.
8. Check each gear for excessive wear, burrs, pitting or chipped or missing teeth. Make sure the lugs on the gears are in good condition.

NOTE

Defective gears should be replaced. It is a good idea to replace the mating gear on the countershaft even though it may not show as much wear or damage.

NOTE

The 1st gear is part of the shaft. If the gear is defective the shaft must be replaced.

9. Make sure that all gears slide smoothly on the main shaft splines.

NOTE

It is a good idea to replace all circlips every other time the transmission is disassembled to ensure proper gear alignment.

10. Slide on the 2nd gear and install the splined washer and circlip (**Figure 99**).
11. Slide on the 3rd gear and the splined washer (**Figure 100**).
12. Slide on the 4th gear (**Figure 101**).
13. Slide the thrust washer onto the other end of the main shaft.
14. Before installation, double-check the placement of all gears (**Figure 102**). Make sure all circlips are seated correctly in the main shaft grooves.

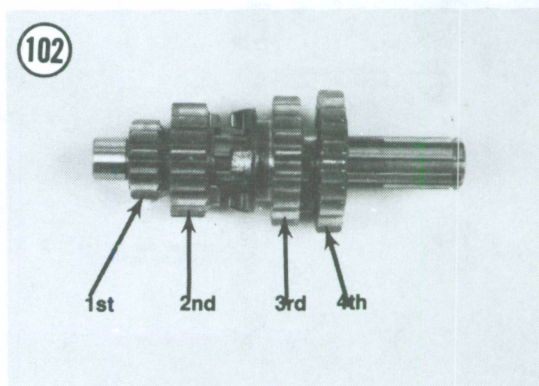
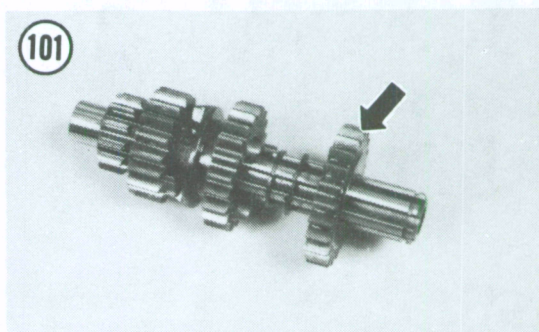
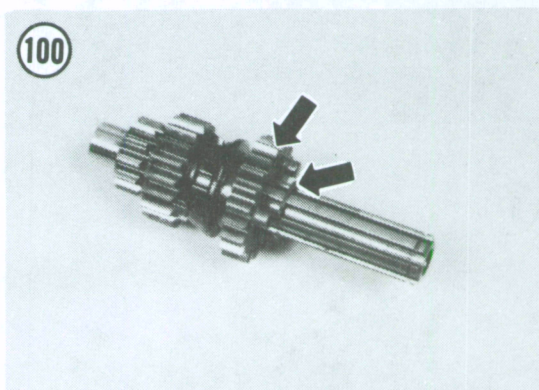
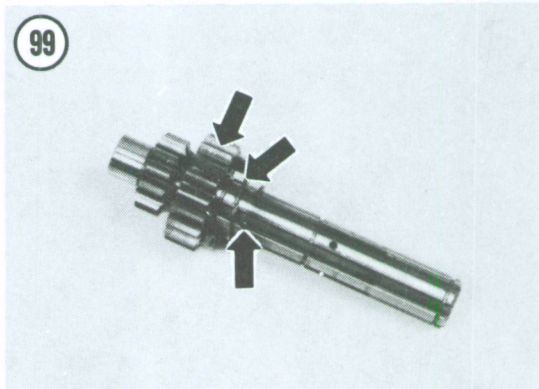
Countershaft Disassembly/Inspection/Assembly

Refer to **Figure 95** for this procedure.

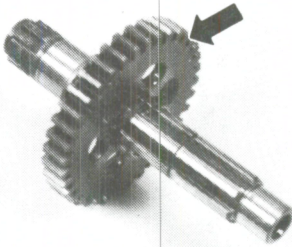
NOTE

*Use the same large egg flat (used on the main shaft disassembly) during the countershaft disassembly (**Figure 98**). This is an easy way to remember the correct relationship of all parts.*

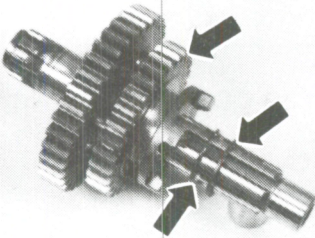
1. Clean the shaft as described under *Preliminary Transmission Inspection (All Models)* in this chapter.



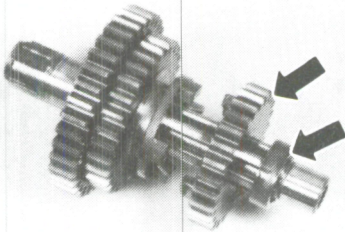
103



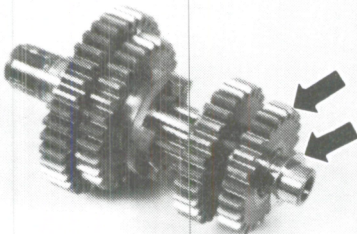
104



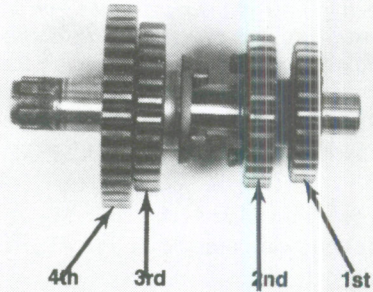
105



106



107



2. Remove the thrust washer and slide off the 4th gear.
3. Slide off the thrust washer and the 3rd gear.
4. Slide off the splined washer and remove the circlip.
5. Slide off the 2nd gear.
6. Remove the circlip and splined washer and slide off the 1st gear.
7. Check each gear for excessive wear, burrs, pitting or chipped or missing teeth. Make sure the lugs on the gears are in good condition.

NOTE

Defective gears should be replaced. It is a good idea to replace the mating gear on the main shaft even though it may not show as much wear or damage.

8. Make sure that all gears slide smoothly on the countershaft splines.

NOTE

It is a good idea to replace all circlips every other time the transmission is disassembled to ensure proper gear alignment.

9. Slide on the 1st gear, splined washer and circlip (Figure 103).
10. Slide on the 2nd gear, circlip and thrust washer (Figure 104).
11. Slide on the 3rd gear and the thrust washer (Figure 105).
12. Slide on the 4th gear and the thrust washer (Figure 106).
13. Before installation, double-check the placement of all gears (Figure 107). Make sure the circlips are seated correctly in the countershaft groove.

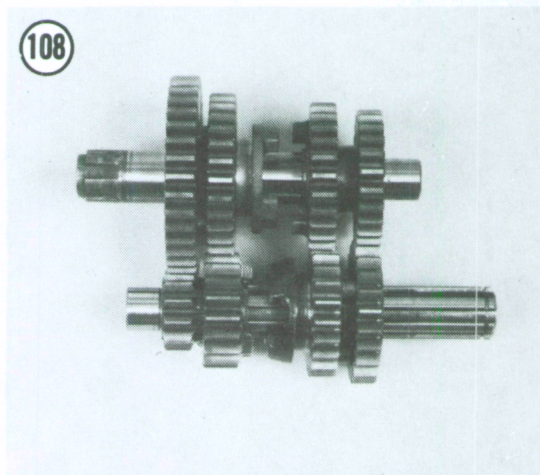
NOTE

After both transmission shafts have been assembled, mesh the 2 assemblies together in the correct position (**Figure 108**). Check that all gears meet correctly. This is your last check prior to installing the assemblies into the crankcase; make sure they are correctly assembled.

4-SPEED TRANSMISSION AND INTERNAL SHIFT MECHANISM (90-125 CC)

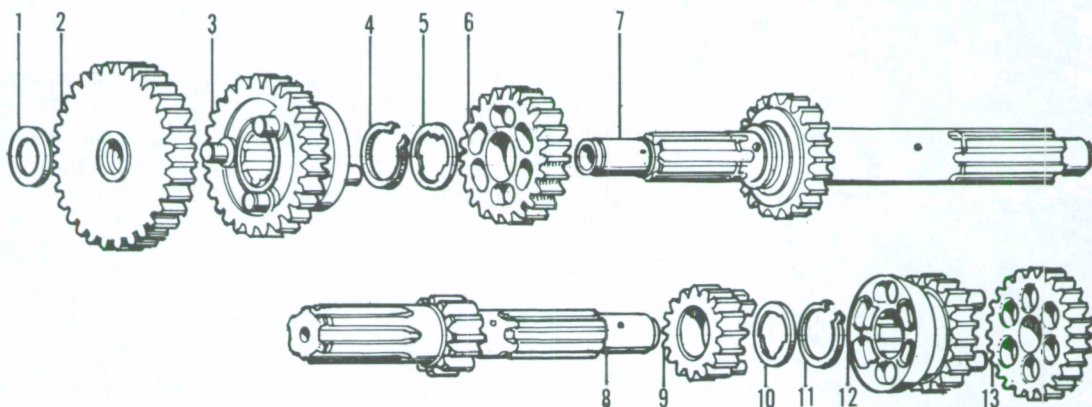
The 4-speed transmission shown in **Figure 109** is used on the following models:

- a. All ATC90.
- b. All ATC110.
- c. ATC125M.



(109)

4-SPEED TRANSMISSION (90-125 CC)



1. Thrust washer
2. Countershaft 1st gear
3. Countershaft 2nd gear
4. Circlip
5. Splined washer
6. Countershaft 3rd gear
7. Countershaft/4th gear
8. Main shaft/1st gear
9. Main shaft 2nd gear
10. Splined washer
11. Circlip
12. Main shaft 3rd gear
13. Main shaft 4th gear

Copyright of Honda ATC, TRX, FOURTRX 70-125, 1970-1987 is the property of Penton Media, Inc. ("Clymer") and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.